Serial N

10/581,292 June 1, 2006

Confirmation No.:

3161

# REMARKS Amendments to the Claims

Independent claims 1 has been amended without prejudice to recite preferred embodiments of applicants' invention that are more clearly distinguished from the prior art. The following additional limitations are included:

Amended claim 1 now incorporates the limitations that the neutralized fatty acid has a chainlenoth of from 14 to 22 carbon atoms as disclosed on page 5, line 2.

Amended claim 1 further incorporates the limitation that the cosmetic composition is suitable for forming a skin cream or lotion on hydration when the composition is mixed with water at a temperature of from 0 to 35°C at a weight ratio of from 1:3 to 1:20 as disclosed in the abstract; page 2, lines 23 to page 3, line 2.

Claims 13 to 16 are new and recite embodiments that are even further removed from the prior art.

Claim 13 specifies that the fatty acid recited in claim 1 is selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof as disclosed on page 5. lines 5-7.

Claim 14 specifies that the structuring agent recited in claim 1 is a mixture of glycerin monostearate and glycol monostearate as disclosed in Examples 1-3, tables 1-3, pages 12-14.

Filed: June 1, 2006

Confirmation No.: 3161

Claim 15 specifies that the inorganic base recited in claim 1 is potassium hydroxide as disclosed page 8, lines 12-13.

Claim 16 specifies fatty acid recited in claim 1 is selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof; that the structuring agent recited in claim 1 is a mixture of glycerin monostearate, glycol monostearate; and that the inorganic base recited in claim 1 is potassium hydroxide (see support provided under new claims 13-16 and Examples 1-3, Tables 1-3, pages 12-14).

#### Claim Rejections - 35 USC § 103

Claims 1 - 9 were rejected under 35 USC §103(a) as being unpatentable over Farrell et al (US 6,630,432). Applicants respectfully request that the Examiner reconsiders the rejection in view of the above amendments and following remarks.

#### Relevant Facts

Farrell et al is directed to bars comprising primarily fatty acid soap as cleansing agent which also contain salts of alpha-hydroxy acids (e. g., sodium lactate) (column 1, lines 8-13). Farrell et al teaches soap bars containing 40-95% of C12 to C24 fatty acid soap, i.e. neutralized fatty acid (column 3, line 53 - 40-90% in claim 1), 7-25% water (column 2, line37); 0-15% of monoglyceride (e.g., glycerol monostearate) (column 4, line 26), 0-15% free fatty acid (column 4, line 28-30); and 2-15% of salts of  $\alpha$ - hydroxyl acids (column 4, lines 8-10).

Attorney Docket No.: T Serial No.: 1

T7105(C) 10/581,292

Filed: Confirmation No.: June 1, 2006 3161

All the soap bar examples disclosed by Farrell contain 67% to 77% neutralized fatty acid derived from a combination of tallow and nut oil (table spanning columns 5-6).

Farrell et al is silent about glycol monolaurate.

Applicants' invention is directed to a cosmetic composition that is suitable for forming a skin cream or lotion when mixed with water. Applicants discovered that combinations of fatty acid, 2-15 wt% fatty acid neutralized with an inorganic base, and specific structurants manufactured into a solid in a particular manner provided compositions which formed a smooth skin cream or lotion when combined with an aqueous based liquid, e.g., water.

#### Applicants' arguments

Applicants submit that their invention is not rendered obvious by Farrell et al because Farrell et al does not teach or suggest all of the claim limitations recited in applicants amended claims. Furthermore, Applicants submit that modification of Farrell et al. to introduce the said limitations would not have been obvious to a person of ordinary skill in the art from a reading of Farrell et al. Applicants' arguments which include responses to the issues raised by the Examiner are discussed below.

## Lack of a teaching or suggestion of all claim limitations

"The prior art reference, or combination of references, must teach or suggest all of the claim limitations (MPEP §2143). In addition to providing at least a suggestion of all the claim limitations, both the suggestion and the reasonable expectation of success must be

Filed: June 1, 2006

Confirmation No.: 3161

found in the prior art references, not in Appellant's disclosure" (See In re Vaeck, 20 U.S.PQ.2d 1438, 947 F.2d 448 (Fed Cir. 1991)

#### Regarding Claim 1

At least the following elements of applicants' amended claim 1 are not disclosed either explicitly or implicitly by Farrell et al:

i) from 2 to 15 wt % fatty acid neutralized by an inorganic base. Farrell et al requires that the disclosed soap bars contain at least 40% of fatty acid which is neutralized by an inorganic base (column 3, lines 51-54 and claim 1). Thus, the minimum level of neutralized fatty acid taught by Farrell et al is 2.7 time higher than the maximum level recited by applicants in their hydratable skin cream and lotion precursor compositions.

In the Final Office Action mailed July 25, 2008, the Examiner admitted that Farrell et al did not teach the claimed concentration range of neutralized fatty acid but held that determination of optimal or workable concentration of neutralized fatty acid by routine experimentation is obvious absent showing of criticality of the claimed invention. According to the Examiner "one having ordinary skill in the art would have been motivated to do this to obtain the desired cleansing and lathering properties of the composition".

Applicants' respectfully disagree and draw the Examiners attention to an attached Declaration from Dr. Shiping Zhu, one of the inventors filed under 37 CRF §1.132, hereinafter "DECLARATION". The experimental results demonstrates that the lathering properties of soap compositions dramatically decrease when the concentration of soap is reduced below the threshold value recited by Farrell et al.

Attorney Docket No.: T7105(C)
Serial No.: 10/581,292
Filed: June 1, 2006

Confirmation No.: 3161

properties.

Dr. Zhu compared 7 mixtures as disclosed in Table 1 of the DECLARATION which had different levels and types of neutralized fatty acids in a base compositions of the type disclosed in Examples 1 and 3 of applicants' specification. These mixtures were then diluted and the dilutions were evaluated for latther, rheological and visual

With reference to Table 2 of the DECLARATION, compositions which contained a tallow/nut oil soap of the type disclosed by Farrell et al at a concentration of less than 20% produced at most a trace amount of lather and had very low foaming potential. Furthermore, there was a noticeable decrease in foaming potential in compositions containing 20% soap relative to 50 wt% soap as would be expected from a reading of Farrell et al.

Applicants respectfully submit that the results presented in the accompanying DECLARATION provide a showing of criticality of the claimed lower level of the neutralized fatty acid. Specifically, the results demonstrate that compositions of the type recited in applicants' claims, i.e., 15 wt% neutralized fatty acid or less, would not have functioned as a soap bar because they would not have lathered when diluted with water

In contrast to the Examiners assertion, the results in the DECLARATION also support applicants' position that a person having ordinary skill in the art would not have modified the compositions of Farrell et al by reducing the soap content to a value at or below 15 wt% which is less than 60% of the lowest range recited in the Farrell et al claims. The Artisan would have recognized that the cleansing and lathering properties of the composition in fact would have been expected to deteriorate when the soap concentration

June 1, 2006

Confirmation No.: 3161

Filed:

fell below 40 wt% and in fact would have deteriorated so much that the composition would no longer have been suitable for its intended purpose as a soap bar.

ii) The fatty acid has a chainlength of from 14 to 22 carbon atoms. Farrell et al teach a fatty acid soap having a chainlength of 8 to 22 preferably 12 to 24 carbon atoms (column 3, lines 55-59). All the examples disclosed in Farrell et al are based on tallow/nut oil soaps which contain C12 fatty acid soaps (laurate soap). Thus, Farrell et al does not limit the chainlength of the fatty acid and the neutralized fatty acid to exclude fatty acids of chainlength less than 14 carbon atoms.

Furthermore, applicants' submit that a person of ordinary skill in the art would not have been motivated to modify a the compositions of Farell et al to exclude C12 fatty acids and C12 soap because these materials are well known to be among the highest lathering soaps and foam boosters. Thus, applicants submit that the artisan would have recognized that the elimination of C12 fatty acids and C12 soaps would have been detrimental to lathering properties of the soap bar. This conclusion is further demonstrated by the experimental results presented in the DECLARATION.

With reference to Tables 1 and 2 of the DECLARATION, mixtures 1 and 2 do not contain any C12 fatty while mixtures 1A and 2A include a C12 soap (potassium laurate). Mixtures 1 and 2 produce absolutely no foam or lather when diluted with water. In contrast mixtures 1A and 2A produce some foam and a trace of lather albeit at the concentrations employed in these mixtures (less than 20-40%) the extent of lather would not have been suitable for a soap bar composition.

Filed: 10/581,292

Confirmation No.: 3161

iii) the cosmetic composition is suitable for forming a skin cream or lotion on hydration when the composition is mixed with water at a temperature of from 0 to 35°C at a weight ratio of from 1:3 to 1:20 (4.7 wt% to 25 wt% in water).

In the Final Office Action mailed July 25, 2008, the Examiner stated that "the bars of Farrell et al are hydrated with water to form a <u>cleansing composition</u>, which usually takes place at room temperature".

In contrast, when applicants' invention is mixed with water, a skin cream or lotion is formed

The distinction between these products can be appreciated from a consideration of the rheological and visual properties of dilutions formed by the two types of compositions which are distinguished by the level and type of fatty acids used, among other things. Applicants' again respectfully direct the Examiners attention to the results set forth in the accompanying DECLARATION.

Dilutions of compositions in which the neutralized fatty acid level was 15% or less especially mixtures 1 and 2 and to a lesser extent mixtures 1A and 2A looked and felt like a skin lotion or skin cream when rubbed on and into the skin. In contrast, dilutions with a neutralized fatty acid level of 20% or greater (mixtures 3-5) were distinctly different and formed increasingly sticky, viscoelastic stringing foams when rubbed on the skin. These results further demonstrate the criticality of the limitation on neutralized fatty acid concentration and chain length recited in applicants' claims.

Thus, the soap bar compositions disclosed by Farrell et al are not suitable for forming a skin cream or lotion on hydration when the composition is mixed with water as required by claim 1. Attorney Docket No.: Serial No.: T7105(C)

Filed:

10/581,292 June 1, 2006

Confirmation No.:

3161

Furthermore, mixing a soap bar with water to form a mixture having a definite ratio which then is applied to and left on the skin is fundamentally incompatible with the way a soap bar is used. The bar is designed to be rubbed on the skin to form a cleansing solution which is then infinitely diluted with water so as to completely rinse it from the skin to leave no residue on the skin.

iv) Appellants submit that claim 2, 5, and 13-16 are even more remote from Farrell
et al because they recite additional elements/non-obvious limitations that are not disclosed
in the reference.

iv)(a) Claim 2 specifies that the amount of neutralised fatty acid is from 2.5 to 8 wt% which is 80 to 94% lower than the lowest acceptable soap level recited by Farrell et al. As can be seen from the results in the DECLARATION, dilutions of mixtures 1 and 1A which contain 7% neutralized fatty acid generate at most trace lather compared with composition having even 20% soap which is already 50% lower than the lowest suitable soap level disclosed by Farrell et al. Thus, a soap level of 2.5 to 8 wt% would be totally unsuitable for a soap bar and a level of neutralized fatty acid of the type disclosed by Farrell et al. at a level greater than about 15% would be unsuitable for a dilutable skin cream or lotion base.

iv)(b) Claim 5 specifies that the hydrocarbon chainlength of the fatty acid is 16 to 18 carbon atoms and claim 13 limits the fatty acids to those selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof. None of these limitations is suggested by Farrell et al and in fact would have been recognized by a person of ordinary skill in the art (e.g., chemist with 1+ years experience in formulating soap bars) to have been detrimental to lathering performance as discussed above under item 1.ii).

Attorney Docket No.: T7105(C)

Serial No.: 10/581,292 Filed: June 1, 2006

Confirmation No.: 3161

Dr. Zhu compared mixtures that contained 7% and 13.5% concentration of a mixture of neutralized myristic acid, palmitic acid and stearic acid with otherwise identical mixtures but derived from neutralized tallow and coconut oil fatty acids as disclosed in Farrell et al (Mixtures 1 and 2 Vs Mixtures 1A and 2A)

The results given in the DECLARATION indicate that the neutralized myristic acid, palmitic acid and stearic acid mixture exhibited absolutely no foam or lather in contrast to mixtures based on neutralized tallow/nut oil fatty acids which exhibited some, albeit very little, foam/lather (Table 2).

Furthermore mixtures based on neutralized myristic acid, palmitic acid and stearic acid had a more pronounced look and feel of a cream or lotion than the mixtures derived from neutralized tallow/nut oil fatty acids (page 6 of DECLARATION under "Qualitative Observations"

iv(c) Claim 14 specifies that the structuring agent is a mixture of glycerin monostearate and glycol monostearate. Farrell et al teaches a composition which includes a monglyceride (glycerol monolaurate, glycerol monstearate) and/or free fatty acid Column 4, lines 25-41). Farrell et al is silent concerning glycol monostearate let alone requiring the combination of glycerin monostearate and glycol monostearate.

iv) (d) Claim 16 specifies that the fatty acid is selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof; the structuring agent is a mixture of glycerin monostearate and glycol monostearate; and the inorganic base is potassium hydroxide. Farrell et al does not disclose either implicitly of explicitly compositions having this combination of limitations.

Attorney Docket No.:

T7105(C) 10/581.292 June 1, 2006

Filed:

Serial No.:

Confirmation No.:

3161

In summary, Farrell et al is directed to a different problem and product from applicants' invention, i.e., processable soap bar including hydroxyl acids Vs dilutable skin cream and lotion bases. Absent a disclosure of element i) - iv)(d) discussed above Farrell et al does not present a prima facie case of obviousness.

Claims 1-8, 10, and 11- 12 were rejected under 35 USC §103(a) as being unpatentable over Crookham et al (US 6,576, 228). Applicants respectfully request that the Examiner reconsiders the rejection in view of the above amendments and following remarks.

#### Relevant Facts

Crookham et al is directed to personal wash compositions in the form of bars which deposit high levels of sunscreen while maintaining good lather. Enhanced deposition is found from both bar and liquid compositions and is based on the solubility or non-solubility of the sunscreen used (Column 1, lines 7-13). Crookham et al teaches personal washing bars containing 1-15% water (column 3, line 52); 20-85% of a fatty acid soap (neutralized fatty acid) (column 3, line 21); 0-15% free fatty acid (column 3, line 27); 0-40% glycerol monostearate (Column 3, line 31); 0.1% to 10% sunscreen agent (column 3, line 33); and other cosmetic additives.

Applicants' invention has already been discussed.

Attorney Docket No.: T7105(C)

Serial No.: Filed:

10/581.292 June 1, 2006

Confirmation No.:

3161

#### Applicants' arguments

Applicants submit that their invention is not rendered obvious by Crookham et al because Crookham et al does not teach or suggest all of the claim limitations recited in applicants amended claims. Furthermore, applicants submit that modification of Crookham et al. to introduce the said limitations would not have been obvious to a person of ordinary skill in the art from a reading of Crookham et al. Applicants' arguments which include responses to the issues raised by the Examiner are discussed below.

## Lack of a teaching or suggestion of all claim limitations

"The prior art reference, or combination of references, must teach or suggest all of the claim limitations (MPEP §2143). In addition to providing at least a suggestion of all the claim limitations, both the suggestion and the reasonable expectation of success must be found in the prior art references, not in Appellant's disclosure" (See In re Vaeck. 20 U.S.PQ.2d 1438, 947 F.2d 448 (Fed Cir. 1991)

# Regarding Claim 1

At least the following elements of applicants' amended claim 1 are not disclosed either explicitly or implicitly by Crookham et al:

i) from 2 to 15 wt % fatty acid neutralized by an inorganic base. Crookham et al requires that the disclosed soap bars contains at least 20% of fatty acid which is neutralized by an inorganic base.

June 1, 2006

Confirmation No.: 3161

Filed:

Confirmation No.: 3161

In the Final Office Action mailed July 25, 2008, the Examiner admitted that Crookham et al did not teach the claimed concentration range of neutralized fatty acid but held that determination of optimal or workable concentration of neutralized fatty acid by routine experimentation is obvious absent showing of criticality of the claimed invention. According to the Examiner "one having ordinary skill in the art would have been motivated to do this to obtain the desired cleansing and lathering properties of the composition".

As discussed above, the experimental results provided in the DECLARATION demonstrates that the lathering properties of soap compositions dramatically decrease when the concentration of soap is reduced below the threshold value recited by Crookham et al.

With reference to Table 2 of the DECLARATION, compositions which contained a tallow/nut oil soap of the type disclosed by Crookham et al (column 5, lines 51-52) at a concentration of less than 20% produced at most a trace of lather and minimal foam as measured by the same cylinder shake method disclosed in Crookham et al. Furthermore, there was a noticeable decrease in foaming potential in compositions containing 20% soap (the Crookham threshold) relative to 50 and 85 wt% soap.

Applicants respectfully submit that the results presented in the DECLARATION provide a showing of criticality of the claimed lower level of the neutralized fatty acid. Specifically, the results demonstrate that compositions of the type recited in applicants' claims, i.e., 15 wt% neutralized fatty acid or less, would not have functioned as a soap bar because they would not have lathered when diluted with water.

Filed: June 1, 2006 Confirmation No.: 3161

In contrast to the Examiners assertion, the results in the DECLARATION also support applicants' position that a person having ordinary skill in the art would not have modified the compositions of Crookham et al by reducing the soap content to a value at or below 15 wt% which is 25% lower than the lowest level taught by Crookham et al. The Artisan would have recognized that the cleansing and lathering properties of the composition in fact deteriorated when the soap concentration fell to or below 20 wt% and in fact would have deteriorated so much that the composition would no longer have been suitable for its intended purpose as a soap bar.

ii) The fatty acid has a chainlength of from 14 to 22 carbon atoms. Crookham et al teach a fatty acid soap having a chainlength of 8 to 22 preferably 12 to 18 carbon atoms (column 5, lines 20-21). Furthermore, Crookham et al specifically teach that a preferred soap contains 15 to about 20% soaps derived from coconut oil (column 5, lines 52-53). Coconut oil contains about 50% laurate soap (C12). Furthermore Crookham et al recommends the inclusion of free fatty acid containing 10 to 16 carbon atoms as a "superfatting agent to enhance lathering properties".

Applicants' again submit that a person of ordinary skill in the art would not have been motivated to modify the compositions of Crookham et al to exclude C12 fatty acids and C12 fatty acid soaps because these materials are well known to be among the most effective agents to enhance lather. Thus, applicants submit that the artisan would have recognized that the elimination of C12 fatty acids and C12 soaps would have been detrimental to the lathering properties of the personal washing bars disclosed by Crookham et al. This conclusion is further demonstrated by the experimental results presented in the DECLARATION.

Attorney Docket No.:

T7105(C)

Serial No.:

10/581,292 June 1, 2006

Confirmation No.:

3161

With reference to Tables 1 and 2 of the DECLARATION, mixtures 1 and 2 do not contain any C12 fatty acid or soap while mixtures 1A and 2A include a C12 soap (potassium laurate). Mixtures 1 and 2 produce absolutely no foam or lather when diluted with water. In contrast mixtures 1A and 2A produce some foam and a trace of lather although at the concentrations employed in these mixtures (less than 20-40%) the level of lather produced would be unsuitable for a soap bar.

iii) cosmetic composition is suitable for forming a skin cream or lotion on hydration when the composition is mixed with water at a temperature of from 0 to 35°C at a weight ratio of from 1:3 to 1:20 (4.7 wt% to 25 wt% in water).

In the Final Office Action mailed July 25, 2008, the Examiner held that Crookham et al "teaches the compositions are hydrated with water to form a wash composition which usually takes place at room temperature. Moreover specifically the prior art teaches the same hydrating method as claimed, hence a cream or lotion wash will be formed upon mixing an aqueous base at a temperature below 80°C:" (page 5, last paragraph of latest Office Action)

In contrast to Crookham et al., mixing applicants' composition with water produces a skin cream or lotion, not a "wash composition".

The distinction between these products can be appreciated from a consideration of the rheological and visual properties of dilutions formed by the two types of compositions.

With reference to the DECLARATION as discussed above, dilutions of compositions in which the neutralized fatty acid level was 15% or less, especially mixtures 1 and 2 and to a lesser extent mixtures 1A and 2A, looked and felt like a skin lotion or skin cream when rubbed on and into the skin. In contrast, dilutions with a neutralized

Filed: June 1, 2006

Confirmation No.: 3161

fatty acid level of 20% or greater (mixtures 3-5) were distinctly different and formed increasingly sticky, viscoelastic stringing foams when rubbed on the skin. These results further demonstrate the criticality of the limitation on the neutralized fatty acid concentration and chain length recited in applicants' claims.

Thus, the personal washing bar compositions disclosed by Crookham et al are not suitable for forming a skin cream or lotion on hydration when the composition is mixed with water as required by claim 1.

Furthermore, mixing a soap bar with water to form a mixture having a definite ratio which then is applied to and left on the skin is fundamentally incompatible with the way a soap bar is used. The bar is designed to be rubbed on the skin to form a cleansing solution which is then infinitely diluted with water so as to completely rinse it from the skin to leave no residue on the skin.

iv) Appellants submit that claim 2, 5, 13 and 16 are even more remote from Crookham et al because they recite additional non-obvious limitation that are not disclosed in the reference.

iv)(a) Claim 2 specifies that the amount of neutralised fatty acid is from 2.5 to 8 wt% which is even lower than the lowest acceptable soap level recited by Crookham et al. As can be seen from the results in the DECLARATION, dilutions of mixtures 1 and 1A which contain 7% neutralized fatty acid generate at most trace lather compared with composition having even 20% soap which is the lowest suitable soap level disclosed by Crookham et al. Thus, a soap level of 2.5 to 8 wt% would be totally unsuitable for the personal washing bars disclosed by Crookham and a level of neutralized fatty acid of the type disclosed by

Attorney Docket No.: Serial No.:

T7105(C)

Filed:

10/581.292 June 1, 2006

3161

Confirmation No.:

Crookham et al. at a concentration greater than about 15% would be unsuitable or a dilutable skin cream or lotion base.

iv)(b) Claim 5 specifies that the hydrocarbon chainlength of the fatty acid is 16 to 18 carbon atoms and claim 13 limits the fatty acids to those selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof. None of these limitations is suggested by Crookham et al and in fact would have been recognized by a person of ordinary skill in the art (e.g., chemist with 1+ years experience in formulating soap bars) to have been detrimental to lathering performance as discussed above under item 1.ii).

Dr. Zhu compared mixtures that contained 7% and 13.5% concentration of a mixture of neutralized myristic acid, palmitic acid and stearic acid with otherwise identical mixtures but derived from neutralized tallow and coconut oil fatty acids as disclosed in Crookham et al (Mixtures 1 and 2 Vs Mixtures 1A and 2A).

The results given in the DECLARATION indicate that the neutralized myristic acid. palmitic acid and stearic acid mixture exhibited absolutely no foam or lather upon dilution in contrast to mixtures based on neutralized tallow/nut oil fatty acids which exhibited some. albeit very low, foam/lather (Table 2).

Furthermore, mixtures based on neutralized myristic acid, palmitic acid and stearic acid had a more pronounced look and feel of a cream or lotion than the mixtures derived from neutralized tallow/nut oil fatty acids, e.g., they had a higher viscosity (page 6 of DECLARATION under "Qualitative Observations").

Attorney Docket No.: Serial No.:

T7105(C) 10/581.292 June 1, 2006

Filed:

3161

Confirmation No.:

iv) (c) Claim 16 specifies that the fatty acid is selected from the group consisting of myristic acid, palmitic acid, stearic acid and mixtures thereof; the structuring agent is a mixture of glycerin monostearate, glycol monostearate and cetyl alcohol; and the inorganic base is potassium hydroxide. Crookham et al does not disclose with any reasonable specificity a compositions having these limitations.

In summary, Crookham et al is directed to a different problem and product from applicants' invention, i.e., personal wash sunscreen compositions that deposit sun screen and lather well Vs dilutable skin cream and/or lotion bases. Absent a disclosure of element i) - iv)(c) discussed above Crookham et al does not present a prima facie case of obviousness

In light of the above amendment and remarks, applicants respectfully request that the application be allowed to issue.

If a telephone conversation would be of assistance, Applicant's undersigned agent invites the Examiner to telephone at the number provided.

Respectfully submitted.

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